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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,437	03/20/2006	Walter Gumbrecht	32860-000900/US	6672
30596 7590 06/02/2009 HARNESS, DICKEY & PIERCE, P.L.C. P.O.BOX 8910 RESTON, VA 20195				
EXAMINER THOMAS, DAVID C				
ART UNIT		PAPER NUMBER		
1637				
MAIL DATE		DELIVERY MODE		
06/02/2009		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Advisory Action  
Before the Filing of an Appeal Brief**

**Application No.**

10/539,437

**Applicant(s)**

GUMBRECHT ET AL.

**Examiner**

DAVID C. THOMAS

**Art Unit**

1637

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 15 May 2009 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.  
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.  
Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☒ Applicant's reply has overcome the following rejection(s): 112, second paragraph of claim 18.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☒ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☒ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: 1, 3-10, 17, 18, 20 and 21.  
Claim(s) withdrawn from consideration: 11-15 and 19.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing of good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☐ The request for reconsideration has been considered but does NOT place the application in condition for allowance because: \_\_\_\_\_.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_  
13. ☐ Other: \_\_\_\_\_.

/Kenneth R Horlick/  
Primary Examiner, Art Unit 1637

Continuation of 11. does NOT place the application in condition for allowance because: Applicant argues that the combination of Cheng, Frechet and Hodko fails to teach the limitations of independent claim 1. In particular, Applicant argues that the microfluidics system of Frechet is not compatible with the electro-chemically-based flow cell system of Cheng and that the polymer monolith surface of Frechet would change the principle of operation of Cheng. The Examiner asserts that the only feature of Frechet that is used in the methods of Cheng is the type of reaction layer to provide coupling groups for binding probe molecules to the surface. The overall operation of the system would remain the same, a flow cell comprising an electronically addressable array of spots. Such methods of attachment of biomolecules to arrays were well known in the art, whether the surfaces are based on a plastic or glass composition, and Frechet teaches a means of attachment lacking in Cheng. However, the probes taught by Cheng would be easily attached to either type of layer.

Applicant further argues that even though Hodko teaches a method for detection of pathogens based on electrochemical AC impedance analysis using three individual electrodes, this method does not correspond to the configuration of the microelectrode arrangement cited in claim 1. Furthermore, Applicant argues that the method of Hodko teaches the use of redox probes to electrochemically amplify the signal, and thus does not alter the impedance of the microelectrode arrangement, and in addition, one of skill in the art would not substitute the markers provided by using the probes of Hodko for the permeation layer of Cheng. The Examiner asserts that the use of redox probes as taught by Hodko is for purposes of detection only and not to alter or substitute for the reaction layer containing the bound probes. The probes simply intercalate into the bound DNA to provide a means of detection based on an AC impedance detection step, and thus the impedance of the electrode-based system of Cheng would be altered during a detection step to indicate a signal.

With regard to claim 4, Applicant further argues that neither Cheng nor Frechet teach the limitation requiring a crosslinkable hydrogel based on at least one of acrylamide with maleic anhydride and glycidyl (meth)acrylate as coupling groups. The Examiner asserts that Cheng teaches hydrogels of acrylamide which can be functionalized using the coupling groups taught by Frechet. The reaction layer is still formed on a flat surface as taught by Cheng, and one of skill in the art of making and using biochips will choose the optimal surface material such as plastic or glass, that also contains the microelectrode array needed for detection, in which to attach the reaction layer. The rejection of the remaining claims are argued based only on their dependency to the base claim. Therefore, all of the 103 rejections are maintained.